

List of courses Master Study Bioinformatics (Version WS2017)

			Sem1	Sem2	Sem3	Sem4	ECTS
			ECTS	ECTS	ECTS	ECTS	
<b>Fach: Complementary Subjects</b>			875COMS16				30
<b>Fach: Complementary Subjects for Bioinformaticians (30 ECTS) - list of choice</b>			<b>Typ</b>	875CBAB16			
Molekulare Biologie der Zelle I	2VL	TPMPBVOMBZ1	3				
Molekulare Biologie der Zelle I	1UE	TPMWBUEMBZ1	1,5				
Introduction into Instrumental Analytics for Life-Sciences	2KV	875GBICIALK12		3			
Basics in Chemistry for Bioinformatics	1KV	875GBICBCHK12	1,5				
Numerical and Symbolic Methods for Bioinformatics	2KV	875GMATNSMK12	3				
Statistik 2	2KV	INMAWKVSTA2	3				
Rechnerarchitektur	3VL	521HARDRARC16		4,5			
Rechnerarchitektur	1UE	521HARDRARC16		1,5			
Software Engineering	2VL	INBIPVOSENG	3				
Software Engineering	1UE	INBIPUESENG	1,5				
Systemnahe Programmierung	2PR	INBIPPRSPRO	3				
Computer Graphics	2VL	INBIPVOCOGR		3			
Computer Graphics	1UE	INBIPUECOGR		1,5			
Algorithmen und Datenstrukturen 2	2VL	INBIPVOALG2	3				
Logic	2VL	521THEOLOGV13	3				
Logic	1UE	521THEOLOGU13	1,5				
Parallel Computing	3KV	921COENPACK13		4,5			
Software Architectures	3KV	921SOENSARK13		4,5			
Computer Forensics and IT Law	2VL	921NESECILV13	3				
Visual Analytics	2VL	921DASIVIAV17	3				
<b>Fach: Complementary Subjects for Biologists (30 ECTS)</b>			<b>Typ</b>	875CBI016			
<b>Fach: Basics of Bioinformatics</b>			<b>Typ</b>	875BABI16			
Sequence analysis and phylogenetics	2VL	675GTSBSAPV16	3				
Sequence analysis and phylogenetics	2UE	675GTSBSAPU16	3				
Genome Analysis & Transcriptomics	2KV	675GTSBGATK13		3			
Structural Bioinformatics	2KV	675GTSBSTBK13		3			
<b>Fach: Basics of Algorithms and Data Structures</b>			<b>Typ</b>	875GALD12			
Artificial Intelligence	2VL	INBIPVOAINT	3				
Algorithmen und Datenstrukturen or	2KV	TM1PEKVADAT	3				
Algorithmen und Datenstrukturen 2	2VL	INBIPVOALG2					
<b>Fach: Basics of Information Systems</b>			<b>Typ</b>	875GINS12			
Informationssysteme 1 or	2VL	INBIPVOIFS1	3				
Informationssysteme	2KV	TM1PEKVINFO					
Visual Analytics or	2VL	921DASIVIAV17	3				
Informationssysteme 1	2UE	INBIPUEIFS1					
<b>Fach: Basics of Mathematics</b>			<b>Typ</b>	875GMAT12			
Numerical and Symbolic Methods for Bioinformatics	2KV	875GMATNSMK12	3				
Statistik 2	2KV	INMAWKVSTA2	3				
<b>Fach: Complementary Subjects for Chemists (30 ECTS)</b>			<b>Typ</b>	875CCE16			
<b>Fach: Basics of Bioinformatics</b>			<b>Typ</b>	875BABI16			
Sequence analysis and phylogenetics	2VL	675GTSBSAPV16	3				
Sequence analysis and phylogenetics	2UE	675GTSBSAPU16	3				
Genome Analysis & Transcriptomics	2KV	675GTSBGATK13		3			
Structural Bioinformatics	2KV	675GTSBSTBK13		3			
<b>Fach: Basics of Algorithms and Data Structures</b>			<b>Typ</b>	875GALD12			
Artificial Intelligence	2VL	INBIPVOAINT	3				
Algorithmen und Datenstrukturen or	2KV	TM1PEKVADAT	3				
Algorithmen und Datenstrukturen 2	2VL	INBIPVOALG2					
<b>Fach: Basics of Information Systems</b>			<b>Typ</b>	875GINS12			
Informationssysteme 1 or	2VL	INBIPVOIFS1	3				
Informationssysteme	2KV	TM1PEKVINFO					
Visual Analytics or	2VL	921DASIVIAV17	3				
Informationssysteme 1	2UE	INBIPUEIFS1					
<b>Fach: Basics of Mathematics</b>			<b>Typ</b>	875GMAT12			
Numerical and Symbolic Methods for Bioinformatics	2KV	875GMATNSMK12	3				
Statistik 2	2KV	INMAWKVSTA2	3				
<b>Fach: Complementary Subjects for Computer Scientists and Business Informaticians (30 ECTS)</b>			<b>Typ</b>	875CCS16			
<b>Fach: Basics of Bioinformatics</b>			<b>Typ</b>	875BABI16			
Sequence analysis and phylogenetics	2VL	675GTSBSAPV16	3				
Sequence analysis and phylogenetics	2UE	675GTSBSAPU16	3				
Genome Analysis & Transcriptomics	2KV	675GTSBGATK13		3			
Structural Bioinformatics	2KV	675GTSBSTBK13		3			
<b>Fach: Basics of Molecular Biology</b>			<b>Typ</b>	875GMOB12			
Molekulare Biologie der Zelle I	2VL	TPMPBVOMBZ1	3				
Molekulare Biologie der Zelle I	1UE	TPMWBUEMBZ1	1,5				
<b>Fach: Basics of Biochemistry</b>			<b>Typ</b>	875GBIC12			
Introduction into Instrumental Analytics for Life-Sciences	2KV	875GBICIALK12		3			
Basics in Chemistry for Bioinformatics	1KV	875GBICBCHK12	1,5				
Chemie für Physiker II	2VL	LP2PCVOCHP2	3				

<b>Fach: Basics of Mathematics</b>	<b>Typ</b>	875GMAT12						
Numerical and Symbolic Methods for Bioinformatics	2KV	875GMATNSMK12	3					
Statistik 2	2KV	INMAWKVSTA2	3					
<b>Fach: Complementary Subjects for Mathematicians (30 ECTS)</b>	<b>Typ</b>	875CMAT16						
<b>Fach: Basics of Bioinformatics</b>	<b>Typ</b>	875BABI16						
Sequence analysis and phylogenetics	2VL	675GTSBSAPV16	3					
Sequence analysis and phylogenetics	2UE	675GTSBSAPU16	3					
Genome Analysis & Transcriptomics	2KV	675GTSBGATK13		3				
Structural Bioinformatics	2KV	675GTSBSTBK13		3				
<b>Fach: Basics of Molecular Biology</b>	<b>Typ</b>	875GMOB12						
Molekulare Biologie der Zelle I	2VL	TPMPBVOMBZ1	3					
Molekulare Biologie der Zelle I	1UE	TPMWBUEMBZ1	1,5					
<b>Fach: Basics of Biochemistry</b>	<b>Typ</b>	875GBIC12						
Introduction into Instrumental Analytics for Life-Sciences	2KV	875GBICIALK12		3				
Basics in Chemistry for Bioinformatics	1KV	875GBICBCHK12	1,5					
Chemie für Physiker II	2VL	LP2PCVOCHP2	3					
<b>Fach: Basics of Algorithms and Data Structures</b>	<b>Typ</b>	875GALD12						
Artificial Intelligence	2VL	INBIPVOAINT	3					
Algorithmen und Datenstrukturen or	2KV	TM1PEKVADAT	0					
Algorithmen und Datenstrukturen 2	2VL	INBIPVOALG2						
<b>Fach: Basics of Information Systems</b>	<b>Typ</b>	875GINS12						
Informationssysteme 1 or	2VL	INBIPVOIFS1	0					
Informationssysteme	2KV	TM1PEKVINFO						
Visual Analytics or	2VL	921DASIVIAV17	3					
Informationssysteme 1	2UE	INBIPUEIFS1						
<b>Fach: Complementary Subjects for Physicists (30 ECTS)</b>	<b>Typ</b>	875CPHY16						
<b>Fach: Basics of Bioinformatics</b>	<b>Typ</b>	875BABI16						
Sequence analysis and phylogenetics	2VL	675GTSBSAPV16	3					
Sequence analysis and phylogenetics	2UE	675GTSBSAPU16	3					
Genome Analysis & Transcriptomics	2KV	675GTSBGATK13		3				
Structural Bioinformatics	2KV	675GTSBSTBK13		3				
<b>Fach: Basics of Molecular Biology</b>	<b>Typ</b>	875GMOB12						
Molekulare Biologie der Zelle I	2VL	TPMPBVOMBZ1	3					
Molekulare Biologie der Zelle I	1UE	TPMWBUEMBZ1	1,5					
<b>Fach: Basics of Biochemistry</b>	<b>Typ</b>	875GBIC12						
Introduction into Instrumental Analytics for Life-Sciences	2KV	875GBICIALK12		3				
Basics in Chemistry for Bioinformatics	1KV	875GBICBCHK12	1,5					
Chemie für Physiker II	2VL	LP2PCVOCHP2	0					
<b>Fach: Basics of Information Systems</b>	<b>Typ</b>	875GINS12						
Informationssysteme 1 or	2VL	INBIPVOIFS1	3					
Informationssysteme	2KV	TM1PEKVINFO						
Visual Analytics or	2VL	921DASIVIAV17	3					
Informationssysteme 1	2UE	INBIPUEIFS1						
<b>Fach: Basics of Mathematics</b>	<b>Typ</b>	875GMAT12						
Numerical and Symbolic Methods for Bioinformatics	2KV	875GMATNSMK12	0					
Statistik 2	2KV	INMAWKVSTA2	3					
<b>Fach: Bioinformatics and Machine Learning</b>	<b>Typ</b>	875BIML16						
Machine Learning: Supervised Techniques	2VL	875BIMLMSTV16	3					
Machine Learning: Supervised Techniques	1UE	875BIMLMSTU16	1,5					
Machine Learning: Unsupervised Techniques	2VL	875BIMLMUTV16		3				
Machine Learning: Unsupervised Techniques	1UE	875BIMLMUTU16		1,5				
Basic Methods of Data Analysis	2KV	875BIMLMDAK16	3					
Theoretical Concepts of Machine Learning	2VL	INMAWVOTCML		3				
Genome Assembly	2KV	875BIMLGAFK16			3			
Deep Learning and Neural Networks	2KV	875BIMLDLNK16		3				
			Total	7,5	10,5	3	0	21
<b>Fach: Seminar Bioinformatics</b>	<b>Typ</b>	875SBIN12						
Seminar Bioinformatics	2SE	875SBINSBIS12			3			
			Total	0	0	3	0	3
<b>Fach: Project Bioinformatics</b>	<b>Typ</b>	875PBIN12						
Project Bioinformatics	4PR	875SBINPBIP12			9			
			Total	0	0	9	0	9
<b>Fach: Soft Skills and Ethics</b>	<b>Typ</b>	875SOSK14						
Präsentations- und Arbeitstechnik	2KV/3ECTS	INBIPKVPRAT						
Rechtsgrundlagen für Informatiker	2VL/3ECTS	INBIPVORECH						
Gender Studies Managing Equality TN	2KV/3ECTS	GS-ME-TN						
Ethics and Gender Studies	2VL/3ECTS	GS-BC						
Management and Marketing	2VL/3ECTS	480MABAMAMV12						
Soziale und geschlechterspezifische Aspekte der IT	2KS/3ECTS	926SGAIGAIS14						
Spezialthemen der Philosophie	2KS/3ECTS	572WSPHSPPEK15				3		
			Total	0	0	0	3	3

Fach: Area of Specialisation	Typ	875ARSP16				
Special Topics on Bioinformatics (Computer Science)	2KV/3ECTS	875ARSPSTCK16				
Special Topics on Bioinformatics (Biology/Chemistry/Physics/Mathematics)	2KV/3ECTS	875ARSPSTBK16				
<i>Fach: Area of Specialisation: Computer Science</i>		875ASPC16				
Information systems for Bioinformatics	4KV/6ECTS	875BIN4ISBK12				
Learning from User-generated Data	3KV/4,5ECTS	921INSYLUDK13				
Visual Analytics	2VL/3ECTS	921DASIVIAV17				
Information Visualization	3KV/4,5ECTS	921CGELINVK13				
Probabilistic Models	2VL/3ECTS	921COENPRMV13				
Probabilistic Models	1UE/1,5ECTS	921CGELPRMU13				
Introduction to R	2KV/3ECTS	675INTRITRK13				
Rechnerarchitektur	3VL/4,5ECTS	521HARDRARC16				
Rechnerarchitektur	1UE/1,5ECTS	521HARDRARC16				
Digitale Signalverarbeitung	1UE/1,5ECTS	521HARDDSVU13				
Digitale Signalverarbeitung	2VL/3ECTS	521HARDDSVV13				
Software Engineering	1UE/1,5ECTS	INBIPUESENG				
Software Engineering	2VL/3ECTS	INBIPVOSENG				
Application Oriented Knowledge Processing	2KV/3ECTS	921CGELAOKK13				
Biometrische Identifikation	2VL/3ECTS	INMAWVOBIDE				
Computer Forensics and IT Law	2VL/3ECTS	921NESECILV13				
Digitale Bildverarbeitung	2KV/3ECTS	INMAWKVDBVA				
Human/Computer Interaction	2VL/3ECTS	921CGELHCIV13				
Machine Learning and Pattern Classification	3KV/4,5ECTS	921PECOMLPK13				
Parallel Computing	3KV/4,5ECTS	921COENPACK13				
Requirements Engineering	2KV/3ECTS	921SOENREQK13				
Software Architectures	3KV/4,5ECTS	921SOENSARK13				
Software Testing	2KV/3ECTS	921SOENSOTK13				
Special Topics (1,5 ECTS)	1KV/1,5ECTS	921CSPST1K13				
Special Topics (1,5 ECTS)	1UE/1,5ECTS	921CSPST1U13				
Special Topics (1,5 ECTS)	1VL/1,5ECTS	921CSPST1V13				
Special Topics (3 ECTS)	2KV/3ECTS	921CSPST2K13				
Special Topics (3 ECTS)	2UE/3ECTS	921CSPST2U13				
Special Topics (3 ECTS)	2VL/3ECTS	921CSPST2V13				
Special Topics (4,5 ECTS)	3KV/4,5ECTS	921CSPST3K13				
Special Topics	2SE/3ECTS	921CSPST2S13				
Theoretical Concepts of Machine Learning	1UE/1,5ECTS	INMAWUETCML				
Web Search and Mining	2KV/3ECTS	921CGELWIRK13				
<i>Fach: Area of Specialisation: Biology/Physics</i>		875ASPB16				
Bioanalytics I	2VL/3ECTS	470WEBIBA1V14				
Bioanalytics I	1UE/1,5ECTS	470WEBIBA1U14				
Bioanalytics II	2VL/3ECTS	470WEBIBA2V14				
Bioanalytics II	1UE/1,5ECTS	470WEBIBA2U14				
Biologische Signalisierung II	1VL/1,5ECTS	TPMPWBVOBIS2				
Biologische Signalisierung I	2VL/3ECTS	TPMPWBVOBIS1				
Biophysik III	2VL/3ECTS	TPMPWBVOBIP3				
Biophysik II	2VL/3ECTS	TPMPWBVOBIP2				
Charakterisierung von Bio-Nanostrukturen	2VL/3ECTS	TPMPWBVOBIN				
Advanced Topics of Molecular Biotechnologies	2VU/3ECTS	865AABBATMU16				
Mikroskopie an Biomolekülen	2VL/3ECTS	TPMPBVOBIBI				
Molekularbiologie II	3PR/4,5ECTS	TPMWBPRMOB2				
Molekularbiologie II	1VL/1,5ECTS	TPMWBVOMOB2				
Molekularbiologie I	2PR/3ECTS	TPMWBPRMOB1				
Molekularbiologie I	2VL/3ECTS	TPMWBVOMOB1				
Molekulare Biologie der Zelle II	1UE/1,5ECTS	TPMWBUEMBZ2				
Molekulare Biologie der Zelle II	2VL/3ECTS	TPMWBVOMBZ2				
Theoretische Biophysik II	1UE/1,5ECTS	TPMWBUETBI2				
Theoretische Biophysik II	2VL/3ECTS	TPMWBVOTBI2				
Theoretische Biophysik I	1UE/1,5ECTS	TPMPBUETBI1				
Theoretische Biophysik I	2VL/3ECTS	TPMPBVOTBI1				
Genomische Datenanalyse	4VU/6ECTS	665GEDAGEDU11				
Biophysik I	2VL/3ECTS	261BIPHBPV15				
<i>Fach: Area of Specialisation: Chemistry</i>		875ASPC16				
Chemical Calculations	2KV/3ECTS	663AACHCCA17				
Organic Chemistry 1	4VL/5,2ECTS	BCBPOVOORCH				
Advanced NMR 2	1KV/1,6ECTS	863STBCAN2K10				
Biophysik I für Molekulare Biowissenschaften	3VL/4,5ECTS	665PHBPBPHV11				
Analytische Chemie III	2VL/2,6ECTS	TCBPBVOANC3				
Biochemistry	2VL/2,6ECTS	TCBPFVOBICH				
Advanced NMR 1	1VL/1,3ECTS	491WORCAN1V10				
Seminar on NMR spectroscopy	1SE/1,5ECTS	700DCHMNMRS11				
Seminar in Structural and Computational Biochemistry	1SE/1,6ECTS	863STBCSCBS13				
<i>Fach: Area of Specialisation: Mathematics</i>		875ASPM16				
Stochastische Simulation	1UE/1,5ECTS	TMCPAUESIMU				

